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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,421	10/28/2003	David J. Napolitano	2002P03647US01	7330

7590 10/31/2006  
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CHICAGO, IL 60610

EXAMINER
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JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3768

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/696,421

Applicant(s)

NAPOLITANO ET AL.

Examiner

Jaworski Francis J.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 167-194 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 167-194 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10-28-03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Double Patenting***

[ Claims 167 – 194 are present for examination in this case, claims 1 – 166 having been cancelled by the preliminary amendment filed on October 28, 2003.]

Claims 167 – 174, 177 – 178, 182-184, 186 - 188, 190-191 and 193 - 194 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims variously of U.S. Patent No. 6193663. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims more narrowly that the spatially distinct (two or more) transmit beams associate with a fundamental and whose transmit waveforms differ by a phase difference and the combining is a claimed coherent summing in the patent claims to form a composite in relate to the fundamental and harmonics of the transmit and with the phase difference applied across the succession of transmit directions and where the receive beams are in one alternative spatially aligned with the transmit beams, and where the 180 degree phase difference is tantamount to a phase inversion and polarity reversal for the carrier wave and the imaging would be understood to be of a B-mode.

Claims 166 – 178, 180, 182-184, 186-191, and 193 - 194 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims variously of U.S. Patent No. 6436046. Although the conflicting claims are not identical, they are not patentably distinct from each other because the latter patent is

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similarly characterizable as of narrower scope while embracing phase or polarity inversion and the claimed waveform parameterization controls except for features.

Claims 167 – 194 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 10/696,421 in view of claims of US 6193663 and 6436046, since whereas the former claims only transmit operations in association with the various parameter variation types during spatially distinct transmit beam cycling, it would have been obvious in view of the claimed subject matter in the latter to composite the received result by combining the beams.

This is a provisional obviousness-type double patenting rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

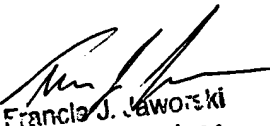
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 174 – 179, and 185 – 194 are rejected under 35 U.S.C. 102(b) as being anticipated by Cole et al (US5675554) insofar as Cole et al cols. 16 –18 which implement the col. 10 discussion of simultaneous transmission along multiple differing scanlines include variation of transmission parameters between the firings except as

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associated with transmit gain, fractional seed harmonics, transmit amplitude modulation code and Doppler operations.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.



Francis J. Jaworski  
Primary Examiner

FJJ:fjj

10-22-06